HAZWRAP

HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM

**U.S. NAVY**

**INSTALLATION RESTORATION PROGRAM**

**WESTERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND**

**SAN BRUNO, CALIFORNIA**

# REMEDIAL INVESTIGATION WORK PLAN
# NAVAL AIR STATION
# MOFFETT FIELD, CALIFORNIA

## VOLUME V: HEALTH AND SAFETY PLAN

December 1987

Martin Marietta Energy Systems, Inc.
Oak Ridge, Tennessee 37831
for the
U.S. DEPARTMENT OF ENERGY

**CONTRACT DE-AC05-840R21400**

# REMEDIAL INVESTIGATION WORK PLAN

# NAVAL AIR STATION

# MOFFETT FIELD, CALIFORNIA

## VOLUME V: HEALTH AND SAFETY PLAN

Prepared for

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December 1987

IT Corporation

I have read and will comply with the Health and Safety Plan for Naval Air Station, Moffett Field, California. Document date, December 1987.

Name (Print):_____

Signature:_____

Date:_____

ENG:2130

# REMEDIAL INVESTIGATION WORK PLAN

## DATED 01 DECEMBER 1987

THIS RECORD CONTAINS MULTIPLE VOLUMES
WHICH HAVE BEEN ENTERED SEPARATELY

VOLUME I OF V IS FILED AS ADMINISTRATIVE
RECORD NO. **N00296.000169**

VOLUME II OF V IS FILED AS ADMINISTRATIVE
RECORD NO. **N00296.000170**

VOLUME III OF V IS FILED AS ADMINISTRATIVE
RECORD NO. **N00296.000171**

VOLUME IV OF V IS FILED AS ADMINISTRATIVE
RECORD NO. **N00296.000172**

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)



OTHER WORK PLAN VOLUMES

VOLUME I: Work Plan
VOLUME II: Sampling and Analysis Plan
VOLUME III: Solid Waste Assessment Test Work Plan
VOLUME IV: Quality Assurance Project Plan

# 1.0 INTRODUCTION

It is the policy of IT Corporation (IT) to provide a safe and healthful work environment for all its employees. IT considers no phase of operations or administration to be of greater importance than injury and illness prevention. Safety takes precedence over expediency or shortcuts and every attempt is made to reduce the possibility of injury, illness, or accident occurrence.

The purpose of this Health and Safety Plan is to: assign IT site personnel health and safety responsibilities, prescribe mandatory operating procedures; establish personnel protective equipment requirements for job or work or activity, for alternative and contingency work items, for emergency response, and for spill cleanup and abatement. These actions will allow the safe and successful performance of well installations and site investigations at the Naval Air Station, Moffett Field, California (NASMF).

The Health and Safety Plan complies with all applicable Federal and California Occupational Safety and Health Administration (OSHA) regulations. This plan is in accordance with the following IT Health and Safety Policies and Procedures:

| | | |
|---|---|---|
| ITC | 9000 | Safety Policy |
| ITC | 9001 | Respiratory Protection Devices - Wearer Fit IT Policy |
| ITC | 9020.1A | Accident Prevention Program - Inspection and Analysis |
| ITC | 9020.2 | Accident Prevention Program - Safety Inspection |
| ITC | 9021.1A | Review of New Jobs, New Project, New Construction and Proposals |
| ITC | 90301A | Employee and Contractor Training Requirements |
| ITC | 9410.1D | Preemployment Medical Examinations |
| ITC | 9410.2B | Periodic/Update Medical Examinations |
| ITC | 9532.9 | Excavation and Trenching |
| ITC | 9552.A | Hazards Communication Program |
| ITC | 9561.C | Respiratory Protective Devices |
| ITC | 9571 | Fire Safety |
| ITC | 9572 | Electrical Safety |
| ITC | 9591.1 | Health and Safety Rules for Contractors |
| ITC | 9650 | Hearing Conservation Program. |

These policies, and their implementation, are central to IT's accident prevention program.

The provisions of this plan are mandatory for all IT personnel and subcontractors assigned to the project. All authorized visitors to any of the work sites will be required to abide by these procedures. Work conditions can be expected to change as the operation progresses. As appropriate, written addenda to the plan will be provided by the Health and Safety (H&S) Coordinator. No changes to the plan will be implemented without prior approval of the H&S Coordinator.

## 1.1 PROJECT DESCRIPTION

The proposed remedial investigative activities for this project at NAS Moffett Field can be summarized as follows. The objective of this effort is to confirm, characterize and define the lateral and vertical extent of environmental contamination and to provide data to support feasibility studies at the following nineteen sites:

- Site 1 Runway Landfill
- Site 2 Golf Course Landfill
- Site 3 Marriage Road Ditch
- Site 4 Industrial Wastewater Holding Ponds
- Site 5 Fuel Farm French Drains
- Site 6 Runway Aprons
- Site 7 Paved and Unpaved Areas Surrounding Hangers 2 and 3
- Site 8 Waste Oil Transfer Area
- Site 9 Old Fuel Farm (including Abandoned Tanks Nos. 47, 48, 49, 50, 56A, 56B, 56C, and 56D)
- Site 10 Chase Park Area.
- Site 11 Engine Test Stand Area
- Site 12 Firefighting Training Area
- Site 13 Equipment Parking Area (Building 142)
- Site 14 Abandoned Tanks Nos. 19, 20, 67, and 68
- Site 15 Sumps and Oil/Water Separators Nos. 25, 42, 54, 58, 59, 62, 63, 64, and 65
- Site 16 PW Steam Rack Sump No. 60
- Site 17 Paint Shop Sump No. 61
- Site 18 Dry Cleaners Sump No. 66
- Site 19 Leaking Tanks Nos. 2, 14, 45, and 53.

## 1.2 CHEMICAL HAZARDS

The geological investigations of this project will involve limited contact with lightly contaminated materials. Thus, there is only a slight potential for chemical exposure.

Known or suspected chemical hazards that may be encountered on site include solvents, chlorinated solvents, fuels, oils, and PCBs. The hazards will be controlled by the use of protective clothing, as prescribed in Section 7 of this plan, and by monitoring airborne contaminant levels, as explained in Section 5 of this plan.

Information regarding the toxicity of these substances will be disseminated at the initial site safety meeting and will be available on site.

The following data will be used for assessment of airborne concentrations:

| | TLV (ppm) | PEL (ppm) |
|---|---|---|
| Benzene | 10 | 1 |
| 1,1-Dichloroethylene | 5 | --- |
| Toluene | 100 | 200 |
| Trichloroethylene | 50 | 100 |
| Vinyl chloride | 5 | 1 |

Fuel oil vapors will be measured by an HNu PI-101 (calibrated to benzene) and 10 ppm will be used as a TLV.

Conventional industrial hygiene monitoring will be conducted when, in the judgment of the Health and Safety Coordinator, an activity may produce airborne concentrations in excess of accepted safe limits. The data will be compared with ACGIH TLVs and OSHA PELs.

## 1.3 PHYSICAL HAZARDS

The principal risks of this project are the physical risks associated with drilling activities. Engineering controls, such as guarding moving parts, shall be used to control such hazards. Protective equipment shall minimize these hazards.

Heat stress (discussed in Section 9 of this plan) and noise also present significant physical hazards.

The fire risk associated with drilling at landfill areas shall be monitored with a combustible gas indicator, as discussed in Section 5 of this plan.

## 2.0 ASSIGNMENT OF RESPONSIBILITIES

All personnel involved in operations who treat, excavate, trench, handle, sample, dispose of, or otherwise have a potential for exposure to site-specific contaminated materials are subject to this H&S Plan.

All personnel are responsible for continuous adherence to the safety procedures during the performance of the work. In no case may work be performed in a manner that conflicts with the intent of, or the inherent safety and environmental cautions expressed in, these procedures. After due warnings, personnel who violate safety procedures will be dismissed from the site and potentially terminated. All field personnel shall be properly trained in health and safety regulations associated with handling hazardous materials and the safe operation of equipment. All subcontractors will be trained as necessary according to the specifications set forth by 29 CFR 1910.120 and this document.

### 2.1 PROJECT MANAGER

The Project Manager, Keith Bradley, will be responsible for field implementation of the health and safety plan. This will include communicating site requirements to all personnel, field supervision, and consultation with the H&S Coordinator regarding appropriate changes to the health and safety plan. As required by IT Policy and Procedures 9021.1A, the project manager will be responsible for informing the project's H&S Coordinator of any changes in work plans so that they may be appropriately addressed.

### 2.2 HEALTH AND SAFETY COORDINATOR

The Project H&S Coordinator will be responsible for development and coordination of the general site health and safety plan and of addenda specific to each site. This Plan will comply with established site-specific procedures in all respects and will include medical surveillance, training requirements, hazard assessment, personnel protective equipment, field implementation, and audits. The H&S Coordinator will update and change the plans, if warranted by

changed conditions. He shall have the only authorization to effect such changes. Agency liaison on matters relating to safety and health will be handled by the H&S Coordinator. Robert Nash, CIH No. 2554, is the H&S Coordinator for this project.

## 2.3 FIELD OPERATIONS COORDINATOR

The Field Operations Coordinator, Howard Fleck, will be the first line supervisor responsible for ensuring that all personnel on site, including subcontractors, comply with the Safety Program Plan requirements.

## 2.4 TECHNICIANS/SUBCONTRACTORS

Technicians, subcontractors, and other personnel on site will be responsible for understanding and complying with all site requirements. H&S requirements will be included in subcontracts. The written requirements will be copied and distributed to personnel working on site and individuals receiving the written requirements will be required to sign off as having received the document.

# 3.0 MEDICAL PROGRAM

## 3.1 PHYSICAL EXAMINATION

As required by ITC Policies and Procedures 9410.10 and 9410.2B, all IT personnel on site will have successfully completed a preplacement or periodic/update physical examination. This examination has been designed to comply with appropriate regulatory requirements for hazardous waste site operations.

The IT Corporation medical surveillance program examination consists of:

- Medical and Occupational History Form (detailed questionnaire for new employees, short questionnaire for periodic exams)
- Physical Examination
- Complete blood count with differential
- SMAC 23
- Urinalysis (dipstick and microscopic)
- Chest x-ray
- Pulmonary Function Test (FEV/FVC)
- Audiogram
- Electrocardiogram for persons older than 45 years of age, or if medically indicated
- Drug and alcohol screening
- Visual activity.

All subcontractor personnel who have potential for exposure to hazardous materials shall have successfully completed an examination similar to the preplacement physical. The cost for medical surveillance will be paid by the subcontractor. All physicals will be approved by a physician who is Board Certified in Occupational Medicine.

## 3.2 MEDICAL RECORDS

Medical and personnel exposure monitoring records will be maintained in accordance with the requirements of 29 CFR 1910.20. Employee confidentiality shall be maintained. These records shall be kept for 30 years.

## 3.3 INJURY AND ILLNESS TREATMENT

Any employee of IT or of a subcontractor who is suspected of having an overexposure to the chemicals on site will be given another complete physical examination. Any employee or contractor who develops a lost-time illness or sustains a lost-time injury will be reexamined. The physician will certify that the employee is fit to return to work by completing the "Return to Work Authorization Following Medical Absence Form." If necessary, activity restrictions will be specified on the "Physical Activity Restriction Report."

## 4.0 TRAINING PROGRAM

All personnel on site will attend training sessions where potential H&S hazards on the site will be communicated and individuals will receive instructions on the requirements of the H&S Plan. This training will be designed to address the requirements of OSHA Hazard Communication Standard (29 CFR 1910.1200) and the OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120).

### 4.1 PREPROJECT TRAINING

All employees and contractors who work on site shall have successfully completed a formal training program which will include:

- Basic Safety Training - This course stresses fundamentals such as the cause and prevention of slip, trip, and fall hazards; safe lifting techniques; heat stress illnesses and their prevention.
- Hazard Protection - This course deals with the identification, recognition, and safe work procedures for toxic materials. The use and limitations of applicable protective clothing and decontamination procedures are an important part of this course.
- First Aid and Cardiopulmonary Resuscitation (CPR) - Some employees will have completed the standard Red Cross First Aid and CPR courses. A minimum of at least one certified employee will be on site at all times.
- Health Hazard Awareness - Information will be available concerning on-site hazardous materials to which employees may be exposed. The information will include routes of exposure, toxic effects, appropriate protective equipment, medical surveillance, and the specific nature of jobs which could result in exposure to chemicals on site.
- Work practices and engineering controls to minimize risk.
- Hearing Conservation Program as defined in the training program.
- Respirator training - The use, limitations, and inspection of air purifying respirators and SCBAs will also be covered. Respirator fit tests will be given to all personnel. These tests will consist of a qualitative

fit using irritant smoke in a plastic containment structure. Personnel will breath normally and heavily, move their heads up and down and from side to side, and talk while wearing the respirator in the smoke.

All employees will have received a minimum of 40 hours of initial off-site instruction. On-site supervisors shall have completed at least 8 additional hours of specialized training on managing hazardous waste operations. This training includes familiarization with the NASMF safety and emergency procedures. Each employee will also have received 3 days of on-the-job training.

## 4.2 TAILGATE SAFETY MEETINGS

Daily tailgate safety meetings will be conducted at the beginning of each shift or whenever new employees or contractors arrive at the job site once the job begins. At these meetings H&S considerations and the necessary protective equipment for the day's activities will be discussed. This meeting will be conducted by the project manager or his designee and documented on the Tailgate Safety Meeting form. Each employee present will sign the form.

## 4.3 TRAINING RECORDS

All training that is conducted on site will be documented on the appropriate forms and retained in the employee's job file.

# 5.0 AIR MONITORING

## 5.1 AREA MONITORING

Area air monitoring will be conducted with direct reading instruments for explosive limits, oxygen, and volatile organic compounds (VOCs) at drill sites and exploratory excavations. Monitoring for explosive limits and oxygen deficiency is to be conducted using a calibrated MSA 260/261 or similar combustible gas/oxygen meter. Monitoring for VOCs is to be conducted using an HNu PI-101 photoionization detector. The HNu will be calibrated daily against benzene. VOCs will be monitored in the breathing zone of workers.

Air monitoring will be conducted every 30 minutes.

Action levels for area and breathing zone air monitoring are as follows:

| | |
|---|---|
| (Breathing zone) VOCs | >1 part per million (ppm) above background (detected with HNu) if detector tubes indicate presence of benzene or vinyl chloride |
| (Breathing zone) VOCs | >10 ppm if benzene or vinyl chloride are not present |
| (Area) Oxygen | <20 percent |
| (Area) Flammable Atmospheres | >10 percent of the LEL |

If action levels are equaled or exceeded, work will stop immediately and personnel will move upwind and let the area vent for a minimum of 5 minutes. At the end of the 5-minute waiting period, air quality measurements will be taken. If concentrations have not been reduced below action levels, detector tubes will be used to determine if benzene or vinyl chloride are present. If benzene or vinyl chloride is detected, the project manager and H&S Coordinator shall be notified. Air purifying respirators will be required for reentry into the area. If benzene or vinyl chloride is not detected, work may continue without respirators unless the breathing zone readings exceed 10 ppm.

If the breathing zone exceeds 10 ppm, the level of protection will be reevaluated. Air purifying respirators may be required.

In extreme cases, a particular operation may be delayed and restarted under new working H&S guidelines, or may be abandoned totally.

## 5.2 PERSONNEL MONITORING

Personnel monitoring for lead will be conducted during operations at Site 11, Engine Test Area. Monitoring will be conducted to ensure conpliance with OSHA 1910.1025. The Health and Safety Coordinator shall determine a representative monitoring program.

Conventional industrial hygiene monitoring shall also be conducted when, in the judgment of the Health and Safety Coordinator, an activity may produce airborne concentrations in excess of acceptable safe limits.

The data will be compared with ACGIH TLVs and OSHA PELs.

# 6.0 WORK ZONES

Site conditions and planned activities do not call for the imposition of rigid access control zones. At the site of each activity, the IT team leader will implement a work zone system that is sufficient to limit employee exposure and prevent the dispersion of hazardous components. This will consist of clarifying:

- Where/when protective clothing must be worn
- Where protective clothing will be donned
- Where protective clothing will be removed
- What must be done with contaminated protective clothing.

However, if on-site conditions change so that an area(s) becomes heavily contaminated, work zones around the site(s) shall be more rigidly defined. The work site will be divided into the Exclusion, Decontamination, and Support Zones.

## 6.1 EXCLUSION ZONE

This zone includes areas of potential contamination and poses the highest inhalation and skin exposure potential. Appropriate respiratory and skin protection will be required for anyone entering the Exclusion Zone. Decontamination will be required for all personnel and equipment leaving this area.

## 6.2 DECONTAMINATION ZONE

This zone includes the area immediately surrounding the Exclusion Zone. This zone shall be at the interface of the Exclusion Zone and the Support Zone and shall provide for the decontamination of equipment and personnel before crossing into the Support Zone.

## 6.3 SUPPORT ZONE

This zone covers all areas outside of the Decontamination Zone. This area is considered to have no significant air, water, or soil contamination. The Support Zone provides a changing area for personnel entering the Decontamination and Exclusion Zones.

# 7.0 PERSONNEL PROTECTIVE EQUIPMENT AND PROCEDURES

## 7.1 STANDARD PROCEDURES

- The respiratory protection utilized on site will be in compliance with OSHA, 29 CFR 1910.134.
- Only properly cleaned, maintained, NIOSH/MSHA-approved respirators (half-face, full-face, or positive air pressure units) shall be used on site.
- Selection of respirators, as well as any decisions regarding upgrading or downgrading of respiratory protection, will be made by the H&S Coordinator or his designee.
- Air purifying cartridges shall be replaced at the end of each shift or when loadup or breakthrough occurs.
- Only employees who have had preissue qualitative fit tests and annual fit tests thereafter will be allowed to work in atmospheres where respirators are required.
- If an employee has demonstrated difficulty in breathing during the fit testing or during use, he or she shall have a physical examination to determine whether a respirator can be worn while performing the required duty.
- No employee shall be assigned to tasks requiring the use of respirators if, based upon the most recent examination, a physician determines that the employee will be unable to function normally wearing a respirator or that the safety or health of the employee or other employees will be impaired by use of a respirator.
- Contact lenses are not to be worn while using any type of respiratory protection.
- Air-supplied respirators shall be assembled according to manufacturer's specifications regarding hose length, couplings, valves, regulators, manifolds, etc.
- Excessive facial hair (e.g., beards) prohibits proper face fit and effectiveness of respirators. Persons required to wear respirators must not have beards,

etc. All personnel wearing full-face or half-face respirators will be required to be clean shaven prior to each day's shift.

- Regular eyeglasses cannot be worn with full-face respirators.
- Where respirators are designated for protection against contaminants, the employee shall be permitted to change canisters or cartridges whenever an increase in breathing resistance is detected.
- Self-contained breathing apparatus (SCBA) will be utilized for emergency procedures.
- Protective clothing will be selected based on site chemical and physical hazards.

## 7.2 WELL INSTALLATION

Personnel shall wear:

- Hardhats
- Safety glasses
- Safety shoes with steel shank
- White Tyvek suit
- PVC boots
- Nitrile gloves.

Employees collecting soil samples shall be similarly attired. Personnel who come in contact with contaminated soil at Sites 8 and 12 shall wear Saranex coveralls, Viton gloves, and disposable shoe covers. Hearing protection shall be worn if noise levels are in excess of 85 dBA.

Some of the project activities may take place during seasonal temperature extremes. During the winter appropriate thermal clothing shall be worn under the required protective clothing.

# 8.0 DECONTAMINATION

## 8.1 PERSONNEL DECONTAMINATION

No personnel protective equipment worn on site will be worn off site without prior decontamination if there is visible contamination. All site personnel shall utilize a step-off decontamination sequence whenever they leave the site. Should site conditions require the level of protection to be upgraded, the decontamination procedure will be modified by the H&S Coordinator.

The decontamination station at any of the sites shall include suitable receptacles for the disposal of used protective clothing. Polyethylene bags may be used for this purpose provided they are sealed daily. Contaminated protective clothing will not be removed from the decontamination area until it has been properly bagged.

Adequate facilities for washing hands will be available at the decontamination station. Tubes of hand cream, rinse water, and clean rags for drying are sufficient. Hands will be washed prior to eating or drinking and before leaving the site at the end of each shift.

## 8.2 BREAKS

All breaks must be taken in a shaded, clean area. Employees shall wash their hands and faces with soap and water and go to an appropriate break area. Employees are encouraged to drink plenty of fluids during breaks.

# 9.0 GENERAL WORK PRACTICES

## 9.1 SAFETY

- Each employee shall acknowledge in writing the receipt of and understanding of the health and safety plan. This documentation will be maintained on site.

- At least one copy of this procedure shall be available at each job work site.

- Legible and understandable precautionary labels shall be affixed prominently to containers of contaminated scrap, waste, debris, and clothing. Each label will include the contractor name, contract title, and contract number.

- Removal of contaminated soil from protective clothing or equipment by blowing, shaking, or any other means which will disperse contaminants into the air is prohibited.

- No food or beverages shall be present or consumed in the exclusion area. No tobacco products shall be present or used, and cosmetics shall not be applied in the regulated area.

- Transportation and disposal of contaminated materials shall comply with all applicable local, state, and federal regulations. These items will be addressed by the transporter and disposer.

- Containers shall be moved only with the proper equipment and shall be secured to prevent dropping or loss of control during transport.

- Emergency equipment shall be located outside the Exclusion Zone in readily accessible locations which will remain minimally contaminated with materials in an emergency.

- All trenching, shoring, and excavation work must comply with all federal OSHA rules. See Section 10.0.

- During the operation, all employees shall be required to wash their hands and faces before eating, drinking, smoking, or applying cosmetics.

- All personnel shall be required to field wash as a minimum at the end of their shift before leaving the job site. Each employee shall wash his hands and face during breaks.

- All personnel shall avoid contact with potentially contaminated substances. Walking through puddles or mud, kneeling on the ground, etc. should be avoided whenever possible.

- Monitoring equipment shall not be placed on potentially contaminated surfaces.

- Field personnel must watch each other for signs of toxic exposure. Indications of adverse effects include but are not limited to:

  - Changes in complexion and skin discoloration
  - Changes in coordination
  - Changes in demeanor
  - Excessive salivation and pupillary response
  - Changes in speech pattern.

- Field personnel shall be cautioned to inform each other of nonvisual effects of toxic exposure such as:

  - Headaches
  - Dizziness
  - Nausea
  - Blurred vision
  - Cramps
  - Irritations of eyes, skin, or respiratory tract.

- Prompt remedial action shall be taken whenever an inadvertent release of a hazardous material occurs.

- Provision will be made for cleaning gross contamination from boots and suits in the Contamination Reduction Zone.

## 9.2 HEAT STRESS

Heat stress may be of concern depending upon the ambient temperature. The heat stress of employees on site will be monitored by the Wet Bulb Globe Temperature Index (WBGT) technique. This method requires the use of a heat stress monitoring device, such as the WBGT Heat Stress Monitor (Reuter Stokes).

The WBGT shall be compared to the Threshold Limit Values (TLVs) outlined in the ACGIH TLV Manual, and a work-rest regimen shall be established, as necessary, according to the WBGT obtained. Note that 5°C must be added to the WBGT when wearing impermeable protective clothing.

One or more of the following control measures can be used to help control heat stress:

- Provision of adequate liquids to replace lost body fluids. Employees must replace water and salt lost from sweating. Employees must be encouraged to drink more than the amount required to satisfy thirst. Thirst satisfaction is not an accurate indicator of adequate salt and fluid replacement.
- Replacement fluids can be a 0.1 percent salt water solution, commercial mixes such as Gatorade or Quick Kick or a combination of these, and fresh water.
- Establishment of a work regimen that will provide adequate rest periods for cooling down. This may require additional shifts for workers or earlier/later work schedules.
- Cooling devices such as vortex tubes or cooling vests can be worn beneath protective garments.
- All breaks are to be taken in a shaded rest area.
- Employees shall remove impermeable protective garments during rest periods.
- All employees shall be informed of the importance of adequate rest, acclimatization, and proper diet in the prevention of heat stress.

## 9.3 CONSTRUCTION SAFETY

All construction work associated with this project will comply with 29 CFR 1926. In accordance with ITC Policy and Procedure 9021.18, all proposed activities will be reviewed with the Health and Safety Coordinator prior to initiation.

## 9.4 SUBCONTRACTOR SAFETY

Any subcontractors used during this project will be required to adhere to the applicable requirements of this Health and Safety Plan and its addenda, and to the requirements of IT Policy and Procedure 9591.1. The Health and Safety Coordinator shall assist project management in ensuring compliance.

## 10.0 EXCAVATION SAFETY

All excavation activities shall be conducted in compliance with Federal OSHA regulations set forth in 29 CFR 1926, Subpart P. As a minimum, the following rules shall be strictly observed.

- Excavations into which employees may be required to descend shall be sloped (1-to-1), benched, or shored, if they are greater than 5 feet in depth.
- Excavation spoils shall be placed no closer to the edge of the excavation than one excavation depth away.
- No employee will work adjacent to any excavation until a reasonable examination of same has been made to determine that no conditions exist exposing them to injury from moving ground.
- Trees, boulders, and other surface encumbrances located so as to create a hazard to employees involved in excavation or in the vicinity thereof at any time during operations will be removed or made safe before excavating is begun.
- At any time entry into an excavation is required, there shall be a standby person available. Any person entering the excavation shall wear a lifeline and harness in addition to the protective clothing in Section 7.0 of this plan.
- Excavations shall be inspected by an IT-qualified person after every rainstorm or other hazard-increasing occurrence, and the protection against slides and cave-ins will be increased if necessary.
- Appropriate access methods, such as ladders, shall be used to enter the excavation. Under no circumstances is it permitted to ride backhoe buckets, etc., to enter or exit the excavation.

# 11.0 EMERGENCY PROCEDURES

The H&S Plan has been established to allow site operations to be conducted without adverse impacts on worker health and safety. In addition, supplementary emergency response procedures have been developed to cover extraordinary conditions that might possibly occur at the site.

## 11.1 GENERAL

All incidents will be dealt with in a manner to minimize adverse health risk to site workers. In the event an incident occurs, the following procedure will be followed:

- First aid or other appropriate initial action will be administered by properly trained personnel who are closest to the incidents. This assistance will be conducted in a manner to ensure that those rendering assistance are not placed in a situation of unacceptable risk.
- All incidents will be reported to the field operations supervisor. The field operations supervisor is responsible for coordinating the emergency response in an efficient, rapid, and safe manner. He will decide if off-site assistance and medical treatment are required and will arrange for assistance.
- All workers on site are responsible for conducting themselves in a mature, calm manner in the event of an incident event. All personnel must conduct themselves in a manner to avoid spreading the danger to themselves and to surrounding workers.

The following emergency equipment will be available at the site:

- First-aid kit
- Fire extinguisher and blanket
- Pressurized eye wash.

The field operations supervisor will document all H&S risk incidents.

## 11.2 RESPONSES TO SPECIFIC SITUATIONS

Emergency procedures for specific situations are given in the following paragraphs.

### 11.2.1 Worker Injury

If an employee working in a contaminated area is physically injured, Red Cross first-aid procedures will be followed. Depending on the severity of the injury, emergency medical response may be sought. If the employee can be removed, he/she will be removed from the source of contamination. Decontamination procedures, additional first aid, or preparation for transportation will be conducted at a safe distance from the work site.

If the injury to the worker is chemical in nature (e.g., overexposure), the following first-aid procedures are to be instituted:

- Eye Exposure - If contaminated soils or liquids get into the eyes, wash eyes immediately at the emergency station using large amounts of potable water and lifting the lower and upper lids occasionally. Wash for at least 15 minutes. Obtain medical attention immediately. Contact lenses will not be worn when working on the site.
- Skin Exposure - If contaminated solids or liquids get on the skin, promptly wash the contaminated skin using soap or mild detergent and water for at least 15 minutes. Obtain medical attention immediately when exposed to concentrated solids or liquids. Wash face and hands prior to eating or leaving the site.

### 11.2.2 Fires

As a fire prevention measure, no smoking or fires are permitted wherever there may be dry grass or other flammable material, or wherever NASMF specifically forbids such practices. Vehicles and equipment will not be left idling or parked in or around areas where catalytic converters may cause grass fires.

Hot work such as welding or cutting shall be performed only as absolutely necessary. Hot work shall only be conducted after issuance of a hot work permit, which will require appropriate site inspection for fire hazards. At least two appropriate fire extinguishers shall be available during hot work procedures. If hot work is required in areas where NASMF procedures prohibit it, prior clearance shall be obtained in writing from NASMF. A hot work permit shall still be required in such instances.

Dry chemical A:B:C fire extinguishers will be provided. If a localized fire breaks out, dry chemical fire extinguishers will be used to bring the occurrence under control. If necessary and feasible, a fire blanket, soil, or other inert materials will be placed on the burning area to extinguish the flames and minimize the potential for spreading. If appropriate, the NASMF fire squadron will be contacted for assistance.

If an uncontrolled fire develops releasing potentially toxic gases, all persons in the immediate vicinity will be evacuated. Contact with the NASMF fire squadron will be made immediately to notify them of the materials involved.

### 11.2.3 Spills

Handling procedures have been developed to limit potential problems with material spillage. In the event of a spill at the site, the area will be isolated from traffic by the field operations supervisor. Spilled solids will be removed and loaded into appropriate containers for subsequent placement or take to original destination. Liquid spills will be contained with absorbent material and then the absorbent will be loaded into appropriate containers for disposal.

## 11.3 NOTIFICATION

Maps showing routes to the hospital, clinic, fire department, and police will be located in support vehicles and locations at the site along with the emergency phone numbers.

The following phone numbers will be placed in all vehicles and on Tailgate Safety Meeting Forms:

- Fire department - 396-3335
- Police department - 396-7266
- Ambulance - 396-3678
- Hospital - 396-7531.

In the event of an on-site emergency, the field operations supervisor is responsible for immediately notifying the NASMF.

## 11.4 DOCUMENTATION

The field operations supervisor will produce a report describing the following:

- The incident (including date and time) that necessitated the notification and the basis for that decision
- Date, time, and names of all persons/agencies notified and their responses
- Resolution of the incident (including duration) and the method/corrective action involved.

This report will be submitted to the H&S Coordinator within 5 working days of the resolution of the event.